



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/536,637	03/28/2000	Hitoshi Nakano	684.2985	5659

5514 7590 07/01/2003

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

CIRIC, LJILJANA V

ART UNIT	PAPER NUMBER
----------	--------------

3743

DATE MAILED: 07/01/2003

20

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/536,637

Applicant(s)
Hitoshi Nakano

Examiner
Ljiljana V. Ciric *LC*

Art Unit
3743



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 30, 2002 and Feb 6, 2003
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4-9, and 11-21 is/are pending in the application.
- 4a) Of the above, claim(s) 12-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-9, 11, and 18-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Feb 6, 2003 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ | 6) <input type="checkbox"/> Other: |

Art Unit: 3743

DETAILED ACTION

Response to Amendment

1. This Office action is in response to the amendment and arguments filed on October 30, 2002 and to the supplemental submission of the corrected formal drawings filed on February 6, 2003.
2. Claims 1, 2, 4 through 9 and 11 through 21 remain in the application, of which claims 12 through 17 remain withdrawn from consideration for being drawn to a non-elected invention, wherein the election was made without proper traverse in Paper No. 7. Of the claims currently under consideration, claims 1, 2, 4 through 9, and 11 through 20 have been amended, either directly or indirectly, and claim 21 is new.

Response to Arguments

3. Applicant's arguments filed on October 30, 2002 have been fully considered but at least those relating to the *Endo* and *Tyler* references are not persuasive.

Again, as a preface to the following traversal of applicant's arguments, the examiner hereby notes that the claims in a pending application should be given their *broadest* reasonable interpretation. See In re Person, 181 USPQ 641 (CCPA 1974).

Also, once again in response to applicant's argument that the applicant's claims distinguish from the *Endo* reference since, for example, the second heat exchanger as claimed in the instant invention "exchanges heat between a coolant and a supply of air", applicant is respectfully

Art Unit: 3743

reminded once again that claims directed to apparatus **must** be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Also, once again, applicant is reminded that “[A]pparatus claims cover what a device *is*, not what a device *does*. (Emphasis in original). *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Thus, absent a recitation of distinguishing structure, little or no patentable weight is given to the functional or intended use limitations in the claims such as “for exchanging heat between the coolant and a supply of air supplied into said chamber” as recited in claim 1 on which applicant relies for patentability.

Contrary to applicant’s argument that “*Endo* is also not understood to provide a refrigerant circulating between the refrigerator and the first heat exchanger”, it is reiterated hereby that, although little or no patentable weight is given to such functional language,

Additionally, in response to applicant’s arguments that “further, *Endo* fails to provide a refrigerant circulating between the refrigerator and the first heat exchanger and a liquid coolant circulating between the first and second heat exchangers,” the examiner first of all notes that contrary to applicant’s assertion that *Endo* clearly discloses a refrigerant 23 circulating between first heat exchanger or cooler 20 and refrigerator or freezer 22.

Secondly, the examiner notes in response to the aforementioned argument that the material or article worked upon does not limit apparatus claims, and that the intended manner of operating a device or apparatus also does not differentiate an apparatus claim from the prior art in a patentable sense. For example, “Expressions relating the apparatus to contents thereof during an

Art Unit: 3743

intended operation are of no significance in determining patentability of the apparatus claim.” See Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, “inclusion of materials or article worked upon by a structure being claimed does not impart patentability to the claims. See In re Young, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in In re Otto, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). Finally, a claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. See Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant's arguments thus fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Applicant's arguments also thus do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Art Unit: 3743

Upon reconsideration in view of applicant's amendments to the claims and applicant's arguments regarding the *Crawford* reference, the rejections based on the *Crawford* reference are not being reiterated by the examiner in the instant Office action.

Applicant's amendments and arguments have overcome the rejections of the claims under 35 U.S.C. 112, second paragraph, as cited in the previous Office action.

Drawings

4. The corrected or substitute drawings were received on February 6, 2003. These drawings are hereby approved.

Specification

5. The use of the trademark "Flon" [in the paragraph starting on line 3 of page 6 as amended] has been noted in this application. This trademark *should be capitalized* wherever it appears and be accompanied by the generic terminology. Applicant, while adding the generic terminology to the specification, has failed to capitalize the trademark as required.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

6. Claim 11 is objected to because of the following informalities: the alternative pieces of equipment should be recited as a Markush group for improved clarity. Appropriate correction is required. The terms "a group consisting of" should be replaced with "the group consisting of".

Art Unit: 3743

Claim Rejections - 35 U.S.C. § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In the instant application with regard to newly presented claim 21, applicant has failed to adequately disclose equivalents for those elements now claimed using means-plus-function language (i.e., “first heat exchanger means for exchanging heat between the refrigerant and a coolant” and “second heat exchanger means for exchanging heat between the coolant and the supply of air supplied into said chamber”). Is any heat exchanger structure which allows heat exchange between two different fluids readable on each of the aforementioned heat exchanger means? Or, does this require certain particular features? Applicant is reminded that although 35 U.S.C. 112, sixth paragraph, statutorily provides that one may use means-plus-function language in a claim, one is still subject to the requirement that a claim particularly point out and distinctly claim the invention. Therefore, if one employs means-plus-function language in a claim, one must set forth in the specification an adequate disclosure showing what is meant by that language. See *Donaldson*, 16 F.3d at 1195, 29 USPQ2d at 1850; see also *B. Braun Medical, Inc. v. Abbott Lab.*, 124 F.3d 942, 946, 42 USPQ 2d 1881, 1884085 (Fed. Cir. 1997).

Art Unit: 3743

Claim Rejections - 35 U.S.C. § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. As best can be understood in view of the indefiniteness of claim 21, claims 1, 2, 4 through 9, 11, and 18 through 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Endo* (filed on March 28, 1997) in view of *Tyler* (both of record).

Endo discloses the apparatus essentially as claimed, including, for example: a chamber or enclosure 2 enclosing semiconductor manufacturing equipment or, more specifically, projection exposure apparatus 2A; a refrigerator or freezer 22 using a refrigerant 23; a first heat exchanger or cooler 20 for exchanging heat between the refrigerant 23 and the liquid coolant 4; a second heat exchanger or cooler 8 or 14 for exchanging heat between the air flowing through the ducts of the temperature control system 3 and, at least indirectly via the refrigerant 23, also with the coolant 4; an air blower or fan 15; a temperature-controlled heater 7 or 13 for heating the supply of air at a predetermined temperature, wherein at least heater 7 has a temperature sensor 5 associated therewith; a temperature sensor 17 which is disposed inside the chamber 2 and which reads on the measuring equipment as cited in claim 11; and, temperature sensor 11 which is disposed adjacent mask R and which reads broadly on the mask inspection equipment as cited in claim 19. The source of the cooling water 24 is broadly readable on the reservoir as recited in

Art Unit: 3743

claim 6, with both the cooling water reservoir or source and the pump 21 being “*provided between the first and second heat exchangers*” 20 and 8 or 14 as broadly interpreted as required.

While *Endo* does not specify whether either of temperature-controlled heater 7 or 13 is an electric heater or a heating heat exchanger, it is a well-known matter of design choice in the art of HVAC design to use either kind of heater in air conditioning systems and it is furthermore taught by *Tyler* to use an electric heater for heating the supply of air to a predetermined temperature in a controlled-environment test chamber in order to enhance temperature control of the supply air since the operation of an electric heater is generally more readily controlled.

Similarly, while *Endo* discloses the coolant as comprising a liquid, *Endo* does not specify, for example, the coolant as being water or a fluoride inert liquid or an anti-freeze liquid as claimed in the instant invention. Nevertheless, Official Notice is hereby taken that it is conventional to use any one of water, anti-freeze liquids, and fluoride inert liquids as coolants in air conditioners.

It would thus have been obvious to one skilled in the art at the time of the invention to choose, based on specific performance/design criteria, any one of a number of known coolants, including water or a fluoride inert liquid, in order to optimize the performance of the air conditioner under the expected operating conditions, for example. It would thus also have been obvious to one skilled in the art at the time of invention to have one of the temperature-controlled heaters 7 or 13 of *Endo* be an electric heater as taught by *Tyler* in order to facilitate the responsiveness of the heater to changes in temperature and thus to the specific heating requirements of the apparatus at any given time.

Art Unit: 3743

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric, whose telephone number is (703) 308-3925.

While she works a flexible schedule that varies from day to day and from week to week, Examiner Ciric may generally be reached at the Office during the work week between the hours of 10 a.m. and 6 p.m. ET.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett, can be reached on (703) 308-0101. The fax phone number is (703) 305-3463.

Art Unit: 3743

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

lvc

June 26, 2003


LJILJANA V. CIRIC
PRIMARY EXAMINER
ART UNIT 3743